

Second Joint Inventor-- and provides updated address for each inventor.

The disclosure stands objected to for informalities. Applicants have amended the disclosure as suggested in the Office Action. In view of the amendments, withdrawal of the objection is requested.

Claim 4-5 and 9-18 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 4-5 and 16-18 have been amended as suggested in the Office Action. Claims 9-15 have been canceled. Reconsideration and withdrawal of the rejection to claims 4-5 and 16-18 is requested.

Claims 1-18 stand rejected under U.S.C. 103 (a) as being unpatentable over Takashina et al. in view of the brochure on the Tuchenhagen product recovery system.

The Office Action states it would have been obvious to provide the catcher of Takashina et al with a clean-in-place chamber for holding a pig while the pig is cleaned as taught by the Tuchenhagen brochure.

Takashina et al. discloses an apparatus for cleaning a pipeline having a launcher at one end of the pipeline and a catcher at the other end of the pipeline. A pig may be moved between the launcher and the catcher or stopped at an intermediate location.

Tuchenhagen discloses a clean-in-place chamber which firmly holds a pig during production and cleaning. That is, the pig is held in place in the primary product flow, and is also held in

place in the flow of cleaning solution. The pig is held in place by a plurality of rods, or arms which contact the pig surface.

The invention of claim 1, as amended, has pig launching station which includes a pig parking chamber outside the primary product flow. The invention also includes a clean-in-place chamber for the pig which allows the pig to move around during cleaning of the pig.

With regard to amended claim 1, Applicants respectfully submit: neither reference recognizes the problem solved; the references teach away from the claimed invention; and the cited combination will not work.

One of the problems not recognize by the references is that of areas of contamination on parts of the pig which contact the apparatuses during the cleaning of the pig. The claimed invention has a clean-in-place chamber which "allows the pig to move around when fluid passes thereby..." This allows cleaning fluid to reach all parts of the pig.

Tuchenhagen claims to clean the pig, but "[d]uring production and cleaning, the pig is firmly held in the pig cleaning station." Thus Tuchenhagen does not even recognize that contamination may be trapped between the pig surface and the rods which hold the pig during the cleaning procedure.

In Takashina et al. even greater portions of the pig remain in contact with the apparatus. The piping 37, the launcher 4 and the catcher 36 have a interior diameter so the pig is in contact with the apparatus at all times. Column 5, lines 43-44 (piping);

Column 5, lines 52-53 (launcher); and Column 7, lines 36-38 (catcher).

Neither of the references teach, suggest, or disclose the cited combination, and actually teach away from such a combination in several ways. Tuchenhagen teaches away from parking station all together by extolling the virtues of product or CIP solutions being conveyed through the station while the pig is firmly positioned inside the station. Tuchenhagen at pg. 4. Takashina et al. claims to provide a complete apparatus without a single mention of a CIP station.

The cited combination will not work. Even if one did combine the elements as suggested the pig would not be allowed to move around when fluid passes thereby since the claimed combination would hold the pig firmly in the pig holding station. While the pig is being held, either by the rods of Tuchenhagen or the pipe of Takashina et al., portions of the pig are isolated from cleaning by solution passing through the pipeline.

In view of the foregoing, Applicants respectfully submit that claim 1 is now in condition for allowance and the same is requested at an early date. Claims 2-8 depend directly or indirectly from independent claim 1, and therefore reconsideration and allowance of claims 2-8 is also requested.

With regard to claims 16-18, claim 16 has been amended and claims 17-18 depend from independent claim 16. Claim 16 has been amended to add the step of "inserting cleaning solution into the pipeline and causing the pig to move about in the clean-in-place

chamber." Support for the amendment may be found in the specification on page 16, lines 8-11.

As discussed above in reference to claim 1, neither Tuchenhagen nor Takashina et al. teach, suggest or disclose such a step and in fact teach away from such a step since both references hold a pig firmly. In Takashina the pig is held in constant contact with the pipe, the launcher or the catcher. In Tuchenhagen the pig is "firmly positioned inside the station and flooded by [cleaning solution]."

In view of the foregoing, reconsideration and withdrawal of this rejection to independent claim 16, and to its dependant claims 17 and 18 is requested.

Claims 1-18 also stand rejected under U.S.C. 103(a) as being unpatentable over Tuchenhagen. The Office Action states that the reference teaches the system as substantially claimed with the exception of a parking chamber for the pig outside of the primary product flow.

As discussed above independent claim 1, as amended, includes a clean-in-place chamber which allows a pig to move around therein when fluid passes thereby. Independent claim 16 includes the step of inserting cleaning solution into the pipeline and causing the pig to move about in the clean-in-place chamber. Tuchenhagen teaches away from this by requiring the pig to be "firmly positioned inside the station."

In view of the foregoing reconsideration and withdrawal of this rejection to independent claims 1 and 16 is requested. It

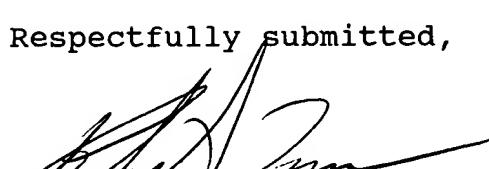
is also requested that claims 2-8 which depend directly or indirectly from claim 1; and claims 17 and 18 which depend from claim 16 also be allowed.

New claims 19 - 24 have been added. No new matter has been added, and support for the claims may be found in original claims 9-15 as well as in the specification. Independent claim 19 includes the limitation of "a clean-in-place chamber which allows a pig to move around when fluid passes thereby to facilitate cleaning of the pig." For the reasons set forth above in reference to claims 1 and 16, independent claim 19 and its dependant claims 20-24 should also be allowed.

The remaining art of record has been reviewed and is not believed to be as relevant as the references relied upon. Applicants submit that all remaining claims are now in condition for allowance and the same is requested. This is intended to be a complete response to the Office Action mailed 03/30/98.

Should the Examiner have any questions or comments, Applicant's Attorney would welcome a call.

Respectfully submitted,



Robert D. Treece, Reg. No. 36,037
12820 N.W. Expressway
Yukon, OK 73099
(405) 373-3632